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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,969	03/07/2005	Guobiao Zhang	ZHANG-001-US	7961

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EXAMINER	
LUKS, JEREMY AUSTIN	
ART UNIT	PAPER NUMBER
2832	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,969	ZHANG, GUOBIAO	
	Examiner	Art Unit	
	JEREMY LUKS	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28 and 30* is/are rejected.

7)☒ Claim(s) *29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-5, 8, 14-28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibel (5,489,753) in view of (Schumacher DE 10020491.0 - Schumacher 2002/0175022 will be used as a translation and will be referred to as Schumacher herein).

With respect to Claim 1, Gibel teaches a muffler (Figures 1, #10) comprising a casing (11) comprising a gas inlet chamber (28) communicating with a gas inlet (22), and a gas outlet chamber (34) communicating with a gas outlet (42), and a throttling device (60) is located between the inlet (22) and outlet (42) of the muffler (10) and controlled by pressure of the gas flow (See Figures 6-8) (Col 5, Line 26-Col. 6, Line 8), wherein a cross sectional area of the gas flow of the throttling device reduces when pressure of the gas flow increases (See Figures 6-8) (Col 5, Line 26-Col. 6, Line 8). Gibel fails to teach a pressure sensor member. Schumacher teaches a throttling device which includes a pressure sensor member (Figures 1 and 2, #4/16). It would also have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Gibel, with the apparatus of Schumacher to provide a pressure sensor in communication with engine operating conditions that is controlled by the engine

operating conditions by way of a pressure sensing diaphragm for controlling the valve device, improving Gibel's which is only manually controllable by way of the adjusting the screw tension. Further, the combination would have been obvious to one of ordinary skill to provide simple substitution of one known adjusting device for another, to provide the predictable result of passively controlling a counter pressure on the closure member. KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007).

With respect to Claim 2, Gibel teaches wherein the throttling device (60) controlled by pressure of the gas flow is a pressure reducing valves structure.

With respect to Claim 3, Gibel teaches wherein the pressure reducing valves (60) structure comprises an adjusting device (80) and a throttling member (61).

With respect to Claim 4, Gibel further teaches a throttling device (60) (which includes adjusting device (80)) comprising a manual adjusting device (head of screw #81 – Col. 4, Lines 56-58), a spring (70, 83) and a connection lever (could be body of screw #81) Schumacher further teaches an adjusting device comprising a spring (Figure 2, #12), an pressure sensor member (19) and a connection lever (13), which are connected in series, and when combined with Gibel, the manual adjusting device will be connected in series as the outer most element.

With respect to Claim 5, Gibel teaches wherein the throttling device (60) comprises an open and close member (61) and a fixture (rods #50 could be a fixture).

With respect to Claim 14, Schumacher teaches wherein the pressure sensor member (Figures 1 and 2, #4/16) is coupled to the gas outlet chamber (7/8, when

combined with Gibel) and Gibel teaches the throttling device (60) being controlled by the pressure of the muffled gas flow (Col 5, Lines 41-60).

With respect to Claims 8, 15 and 16, Schumacher teaches wherein the pressure sensor member (Figures 1 and 2, #4/16) is a diaphragm (19) (Page 3, [0059]) and coupled to the casing (via section #29 seen in Figure 2, when used in combination).

With respect to Claims 17-20, Gibel further teaches wherein the muffler (Figure 1, #10) comprises a spring (70/83) connected with the throttling device. Schumacher further teaches wherein the muffler (Figure 1) comprises a spring (12) which is connected with the combination of the pressure sensor member (4/16/19) and the throttling device (14)

With respect to Claim 21, Schumacher teaches wherein the spring (12) is connected with the pressure sensor (4/16/19).

With respect to Claims 22, 23 and 25-27, Schumacher teaches wherein the other end of the spring (12 – opposite diaphragm #19) is connected with the casing (defined by outer tube portion of branch pipe #5 and outer housing of adjusting device #16, hen used in combination), wherein the part (16) of casing (5, 16) which is connecting the spring (12) forms a spring chamber (16), and wherein the spring chamber (16) comprises a balancing hole communicating with the atmosphere (Page 2, [0020]).

With respect to Claim 24, Gibel teaches wherein a manual adjusting device (defined screw head #81) connects other end of the spring (83) (end opposite diaphragm #19 when used in combination with Schumacher) and the casing (11)

With respect to Claim 28, Gibel teaches a partition (Figures 1 and 2, #32) having an aperture (33) defined therein, wherein the partition (32) is coupled to the casing (11) and defines the gas inlet chamber (28, directly upstream partition #32) and the gas outlet chamber (34, directly downstream partition #32).

With respect to Claim 30, Gibel teaches a fixture (Figure 1, #50) coupled to the partition (32) and positioned adjacent the aperture (33).

2. Claims 6, 7 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibel (5,489,753) in view of (Schumacher DE 10020491.0 - Schumacher 2002/0175022 will be used as a translation and will be referred to as Schumacher herein) as applied to Claim 4 above, and further in view of Fujikawa (3,977,381).

With respect to Claims 6 and 7, Gibel and Schumacher are relied upon for the reasons and disclosures set forth above. Gibel further teaches wherein the throttling device (60) comprises an open and close member (61) and a fixture (rods #50 could be a fixture). Gible and Schumacher fail to teach wherein the structure of the open and close member is characterized in that a cross sectional area of its first surface subjecting to gas pressure from the gas inlet is larger than a cross sectional area of its second surface that is opposite to the first surface and exposes to the gas outlet. Fujikawa teaches wherein a throttling device comprises an open and close member (Figure 1, #34) and a fixture (29); wherein the structure of the open and close member (34) is characterized in that a cross sectional area of its first surface (upstream end surface) subjecting to gas pressure (when used in combination with Gibel) from the gas inlet (18) is larger than a cross sectional area of its second surface (downstream end

surface) that is positioned opposite to the first surface and positioned within the gas outlet chamber (unlabeled, but clearly seen defined by flow arrows) when used in combination. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the apparatus of Gibel as modified, with the apparatus of Fujikawa to provide simple substitution of one known throttling element for another to provide the predictable result of the valve (when used in the Gibel apparatus) functioning to reduce the cross sectional area of the flow through the throttling member. KSR International Co. v. Teleflex Inc., 82 USPQ 2d 1385 (2007).

With respect to Claim 9, Fujikawa teaches wherein a connection lever (42) of an adjusting device (26) is connected with the second surface (downstream end surface) of the open and close member (34) when used in combination.

With respect to Claim 10, Schumacher teaches wherein the pressure sensor (4/16/19) member is a diaphragm (Page 3, [0059]).

With respect to Claim 11, Gibel and Schumacher wherein a spring chamber (Schumacher, #16) is connected with the gas outlet chamber (Schumacher, defined by flow ducts within housing #5, downstream throttling device #14); wherein the spring (12) and a part of the manual adjusting device (Gibel, defined by screw #81) are located within the spring chamber (Schumacher, #16); and wherein the spring chamber (Schumacher, #16) comprises a balancing hole communicating with the atmosphere (Page 2, #20).

With respect to Claims 12 and 13, Gibel teaches wherein gas flow discharged from the gas outlet (42) is continuous, stable and without pulsation (Col. 3, Lines 6-9).

Further, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. If the prior art structure is capable of performing the intended use, then it meets the claim. Ex Parte Masham, 2 USPQ F.2d 1647 (1987).

Allowable Subject Matter

3. Claim 29 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or suggest any obvious combination of the limitations discussed in claim 28, and further comprising the limitations of **(With respect to Claim 29)** wherein the throttling device comprises an open and close member having a connection lever coupled thereto, the open and close member is coupled to the pressure sensor member using the connection lever and is positioned substantially within the aperture of the partition.

Response to Arguments

5. Applicant's arguments with respect to claims 1-28 and 30 have been considered but are moot in view of the new ground(s) of rejection. The Examiner considers the

obvious combination of Gibel, Schumacher and Fujikawa to teach all of the limitations as claimed by Applicant.

6. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Further, the Examiner notes that the actuating device # 4/16 of Schumacher is a passive control element that incorporates a diaphragm member #19 having high and low-pressure sides (17 and 18) , and connected between a connection lever #13 and a spring #12 in the same manner as Applicant's pressure sensor. Applicant's claim 1 does not limit the pressure sensor member as being located between the inlet and outlet of the muffler, rather the throttling member is the only element limited as being located between the inlet and outlet of the muffler. Based on Applicants arguments it is unclear exactly how the pressure sensor #19 of Schumacher and similarly that of Fujikawa, #48/50, are different from the pressure sensor member as recited in claim 1.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMY LUKS whose telephone number is (571)272-2707. The examiner can normally be reached on Monday-Friday, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeremy Luks/
Examiner, Art Unit 2832

/Jeffrey Donels/

Primary Examiner, Art Unit 2832